

Approved
7-14-04

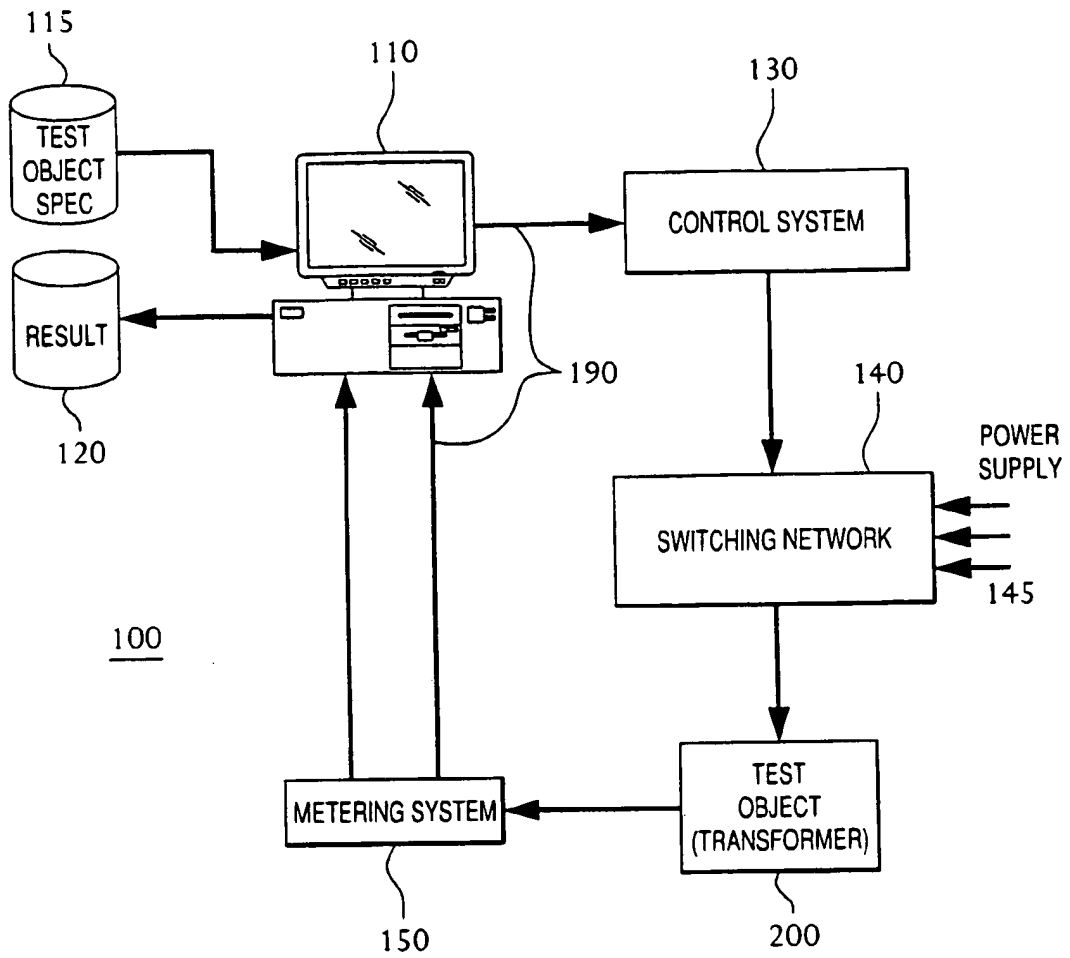


FIG. 1

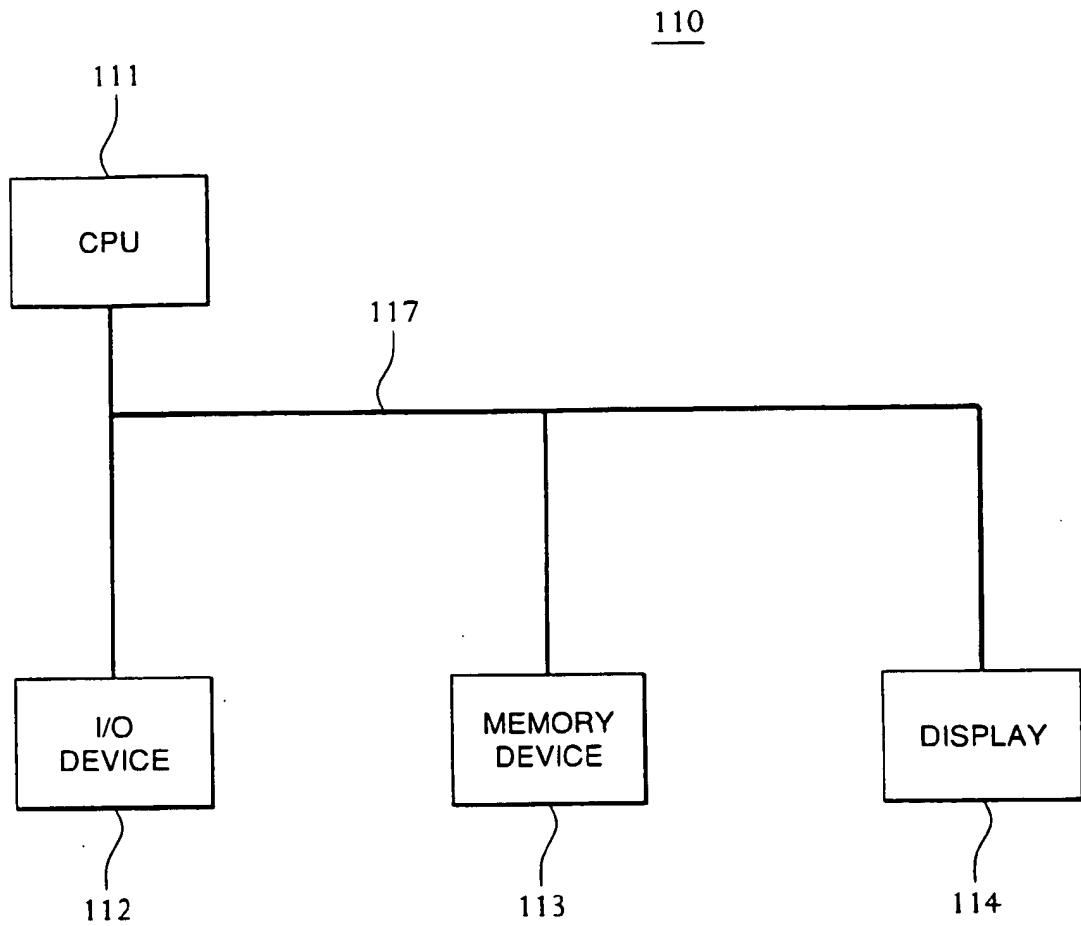


FIG. 2

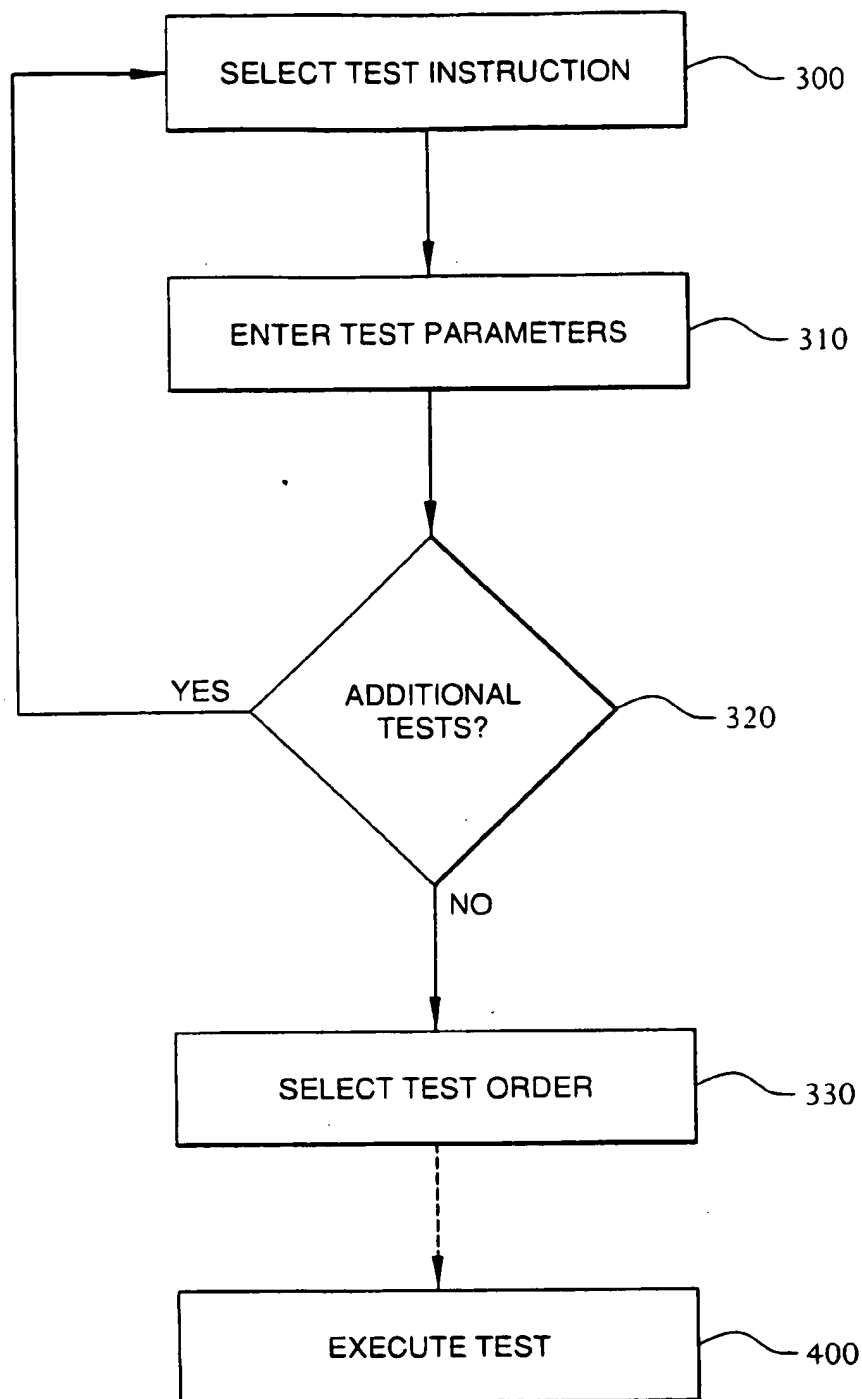


FIG. 3

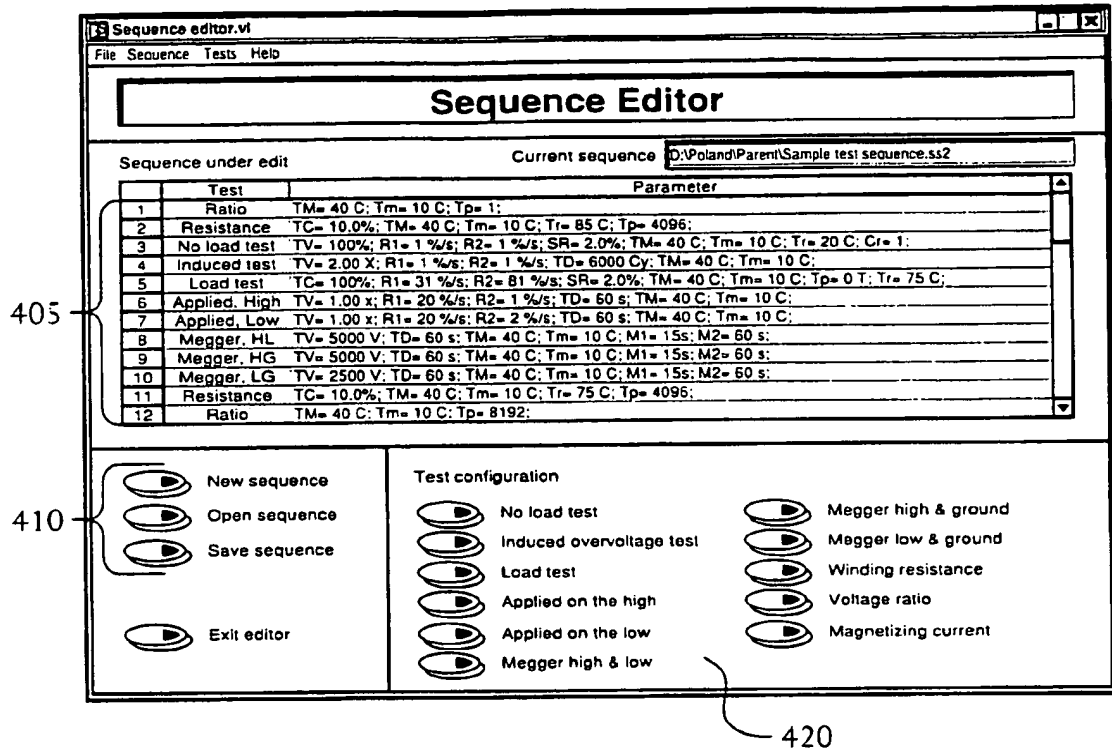


FIG. 4

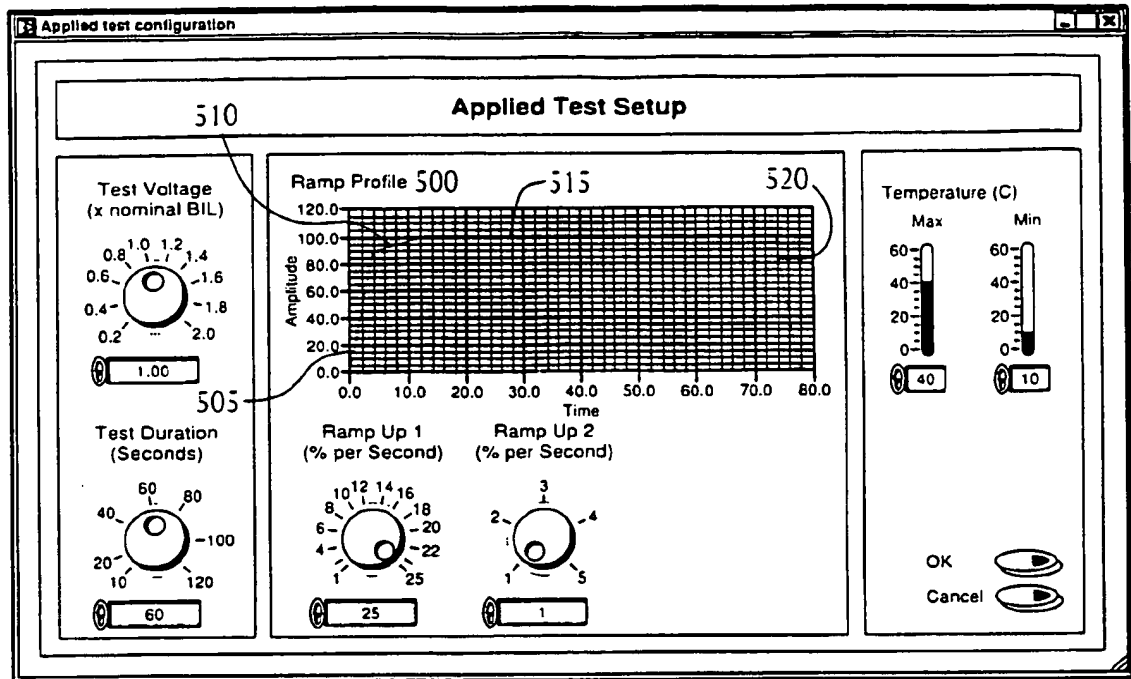


FIG. 5

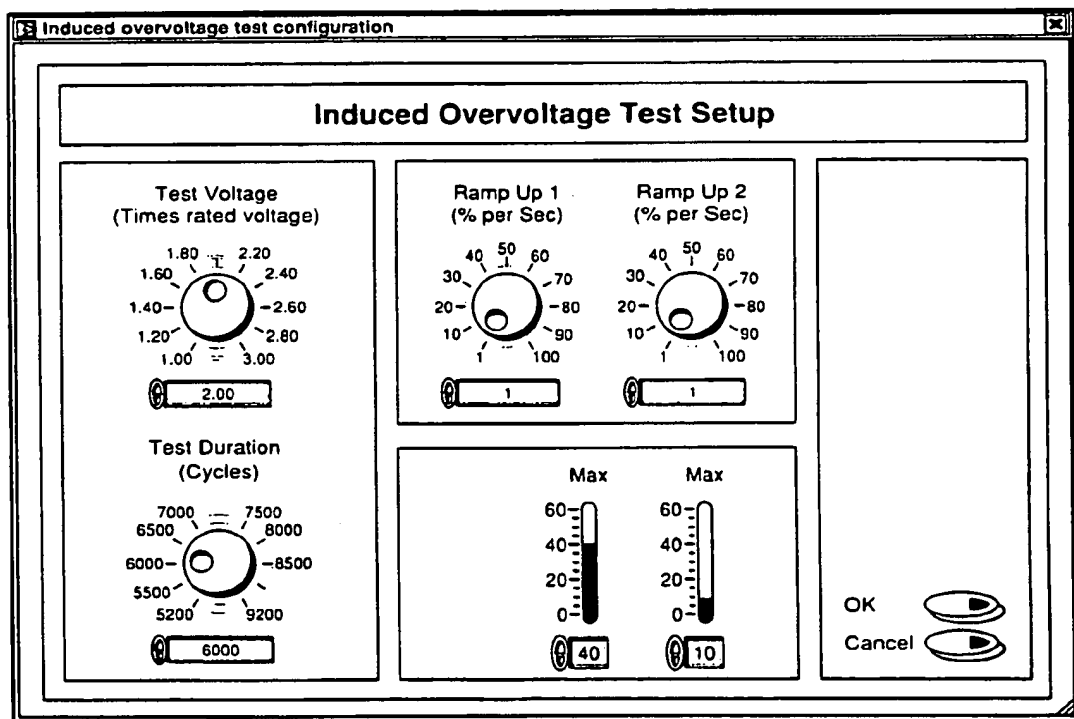


FIG. 6

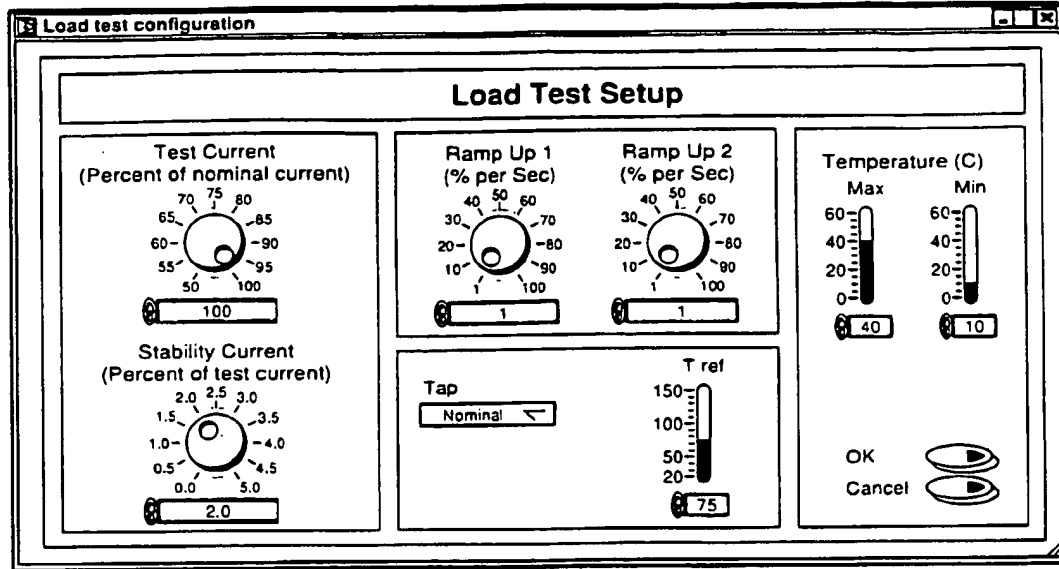


FIG. 7

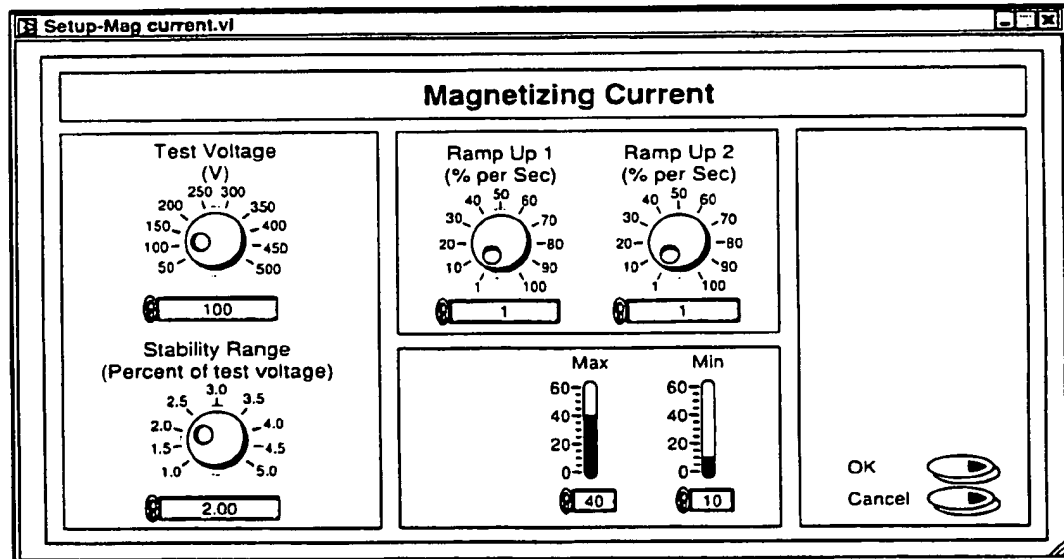


FIG. 8



Megger test configuration

Megger Test

Test Voltage (V)
2000 3000
1000 4000
0 5000
2500

Test Duration (Seconds)
100 150 200
50 250
0 300
60

Measurements
15
60
Add
Delete

Time
0
Add
Delete

Temperature (C)
Max Min
60 60
40 40
20 20
0 0
40 10

OK
Cancel

FIG. 9

No load test configuration

No Load Test Setup

Test Voltage (Percent of nominal voltage)
85 90 95
80 100
75 105
70 110
100

Stability Range (Percent of test voltage)
2.5 3.0 3.5
2.0 4.0
1.5 4.5
1.0 5.0
2.00

Ramp Up 1 (% per Sec)
40 50 60
30 70
20 80
10 90
100

Ramp Up 2 (% per Sec)
40 50 60
30 70
20 80
10 90
100

Temperature (C)
Max Min
60 60
40 40
20 20
0 0
40 10

☒ Correct?

T ref
150
100
50
0
20

OK
Cancel

FIG. 10



Ratio test configuration

Ratio Test Setup

Taps Tested

☐ All?

Taps

Nominal

Add

Delete

Max

60
40
20
0

40

Min

60
40
20
0

10

OK

Cancel

FIG. 11

Resistance test configuration

Resistance Test Setup

Test Current (%)

4 5 6 7 8 9 10

10.0

T ref

150
100
50
20

75

Temperature (C)

Max

60
40
20
0

40

Min

60
40
20
0

10

Taps Tested

☐ IEC?
☐ All?

Taps

Nominal

Add

Delete

OK

Cancel

FIG. 12



Automated Test		AIRB																											
Hardware Status		Test Results ○○○●●●																											
CT Tap <input type="button" value="All Open"/>	Step up tap <input type="button" value="No Tap"/>	Applied <input type="radio"/> Mag current <input type="radio"/>																											
PT Tap <input type="button" value="All Open"/>	Output mode <input type="button" value="50 Hz TTS"/>	<table border="1"><thead><tr><th>Side</th><th>V_i</th><th>Status</th></tr></thead><tbody><tr><td></td><td></td><td></td></tr></tbody></table>		Side	V _i	Status																							
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Megger switch <input type="radio"/>	Deck <input type="button" value="1"/> <input type="button" value="2"/> <input type="button" value="3"/>	<table border="1"><thead><tr><th>V_i</th><th>I</th><th>Status</th></tr></thead><tbody><tr><td>0080</td><td></td><td>ERR</td></tr></tbody></table>		V _i	I	Status	0080		ERR																				
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0080		ERR																											
Visible disconnect <input type="radio"/>	Sw. Network <input type="button" value="Err"/> <input type="button" value="Err"/> <input type="button" value="Err"/>	Induced <input type="radio"/> Megger <input type="radio"/>																											
Shorting switch <input type="radio"/>	Output energized <input type="radio"/>	<table border="1"><thead><tr><th>Side</th><th>V_i</th><th>Status</th></tr></thead><tbody><tr><td>OHG</td><td>2000</td><td>ERR</td></tr><tr><td>OHG</td><td>2500</td><td>ERR</td></tr></tbody></table>		Side	V _i	Status	OHG	2000	ERR	OHG	2500	ERR																	
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OHG	2000	ERR																											
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Resistance H switch <input type="radio"/>	Emergency <input type="radio"/>	Losses <input type="radio"/> Ratio <input type="radio"/>																											
Resistance L switch <input type="radio"/>	Error <input type="radio"/>	<table border="1"><thead><tr><th>V_i</th><th>Imp.</th><th>Status</th></tr></thead><tbody><tr><td>0096.0</td><td></td><td>ERR</td></tr></tbody></table>		V _i	Imp.	Status	0096.0		ERR																				
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		Commands																											
		<input type="radio"/> Start																											
		<input type="radio"/> Stop																											
		<input type="radio"/> Reset																											
		<input type="radio"/> Change TUT																											
		Screen																											
		<input type="radio"/> Hardware status																											
		<input type="radio"/> Details																											
		<input type="radio"/> Exit																											

FIG. 13